**Review topics and suggested review for**

**Geometry 1st Semester Final Exam**

**Unit 1: Inductive and Deductive Reasoning**

* Find and describe patterns
* Make conjectures based on inductive reasoning
* Identify the hypothesis and conclusion of a conditional statement
* Be able to write conditional statements in if-then form
* Determine if a conjecture is true or false by providing a counterexample
* Identify the converse of a conditional statement
* Create a bi-conditional statement from two appropriate conditionals and write the two conditional statements implied in a bi-conditional
* Use the law of detachment and law of syllogism to create new conclusions
* Given a situation, determine whether inductive or deductive reasoning was used to reach the conclusion

**p. 118 #1-6,11,12**

**p. 803 #1-6**

**p.805 #1-15**

**Unit 2: Points, Lines, and Planes**

* Identify and name points, lines, planes, segments, and rays
* List characteristics of points, lines, planes, segments, and rays
* Find the distance between two points on a number line and a coordinate plane using a form of the Pythagorean Theorem such as the distance formula
* Identify and apply the geometric markings on a figure used to indicate equal length segments and the location of a midpoint on a segment
* Find the coordinates of the midpoint of a segment
* Apply concepts of segment addition to form variable equations and solve for the variables and the smaller components of a larger segment
* Use properties of equality/congruence in algebraic proofs
* Apply concepts of segment addition to form equations that express the relationships between the smaller components of a larger segment in a proof
* Complete segment proofs using theorems, postulates, and properties

**p.63 #1-9, 15**

**p.803 #9-20**

**Unit 3: Angles**

* How to name an angle
* Select appropriate units of measure for angles.
* Identify and classify angles based on the angle measurement
* Identify and apply the geometric markings on a figure indicating angles with equal measure
* Use properties of angle pairs to find angle measures
* Use various algebraic methods to find the measure of angles
* Apply concepts of angle addition
* Complete angle proofs using theorems, postulates, and properties
* Identify properties associated with parallel and perpendicular lines
* Identify and apply the geometric markings on a figure indicating parallel lines
* Identify the special angles formed by two lines and a transversal (corresponding, alt.interior, alt. exterior, and consecutive interior)
* Use various algebraic methods to find the measure of angles formed by parallel lines and a transversal
* Prove two lines are parallel based on given angle relationships

**p.63 #10-14, 17, 18**

**p.804 #26-40**

**Unit 4: Triangles**

* Identify the parts of triangles and classify them by their parts
* Use various algebraic methods to find the angle measures of triangles from minimal given information
* Demonstrate the correspondence between the degree measure of the interior angles in triangles and the length of the sides. (Triangle Inequality)
* Identify and apply the properties of midsegments in triangles
* Identify and apply the properties related to sides, angles, and altitudes of isosceles and equilateral triangles
* Determine if three given lengths can form a triangle
* Solve a variety of problems where it is necessary to find missing sides of right triangles by applying the Pythagorean Theorem
* Solve a variety of problems where it is necessary to find missing sides of right triangles by applying the properties of Special Right Triangles (45-45-90 and 30-60-90 triangles)
* Identify and calculate the ratios for sine, cosine, and tangent from a given diagram
* Solve a variety of problems where it is necessary to solve right triangles by applying sine, cosine, and tangent

**p.255 #1-7**

**p. 311-312 #14-19**

**p.582-584 #4-21**

**Even more practice: p.186-187 #1-7, 18-23, 26-29. 36**